

CLAIMS

1. A commissioning module for a fluid-distribution system including:
 - a plurality of fluid distribution valves so connected together as to provide a first through-port communicating with a second through-port by way of a fluid passage, the fluid distribution valves including respective fluid outlet ports communicating with the fluid passage through fluid flow-control means,
 - a first isolating valve including an inlet port and an outlet port, the outlet port being connected to the first through port of the plurality of fluid distribution valves and the inlet port providing a fluid supply port of the commissioning module,
 - further isolating valve means including an inlet port and an outlet port, the inlet port being connected to the second through-port of the plurality of fluid-distribution valves and the outlet port being connected to a combined fluid-exhaust port of the commissioning module,
 - a plurality of fluid flow-regulating valves, the same in number as there are fluid-distribution valves, including respective inlet and outlet ports, the outlet ports being connected to the combined fluid-exhaust port of the commissioning module,
 - a further fluid flow-regulating valve connected between the combined fluid-exhaust port and a further fluid exhaust port of the commissioning module,
 - flow-rate measuring means connected between the further fluid flow-regulating valve and the combined fluid-exhaust port of the commissioning module and
 - at least one drain-off cock connected to permit the draining of fluid from the commissioning module,
 - the commissioning module, in operation, providing supply fluid by way of its fluid supply port to the fluid outlet ports of the fluid distribution valves and removing exhaust fluid by way of the further fluid-regulating valve to its further fluid-exhaust port.
2. A commissioning module as claimed in claim 1, wherein the further isolating valve means is a second isolating valve including an inlet port and an outlet port, the inlet port being connected to the second through-port of the plurality

of fluid-distribution valves and the outlet port being connected to a combined fluid-exhaust port of the commissioning module,

3. A commissioning module as claimed in claim 1, wherein the further isolating valve means includes a first and a second additional isolating valve including respective inlet and outlet ports, the inlet port of the first additional isolating valve being connected to the second through-port of the plurality of fluid-distribution valves, the outlet port of the second additional isolating valve being connected to a combined fluid-exhaust port of the commissioning module and the inlet port of the second additional isolating valve being connected to the outlet port of the first additional isolating valve.
4. A commissioning module as claimed in claim 1, including a drain-off cock connected to the combined fluid-exhaust port of the commissioning module.
5. A commissioning module as claimed in claim 3, including a drain-off cock connected to the outlet port of the first additional isolating valve.
6. A commissioning module as claimed in claim 1, including a gas vent connected to its combined fluid-exhaust port.
7. A commissioning module as claimed in claim 1, including a gas vent connected through the further isolating valve means to its combined fluid exhaust port.
8. A commissioning module as claimed in claim 6, including a third isolating valve by way of which the gas vent is connected.
9. A commissioning module as claimed in claim 6, wherein the gas vent is an automatic gas vent.
10. A commissioning module as claimed in claim 1, including a drain-off cock connected to the first through-port of the plurality of fluid distribution valves.

11. A commissioning module as claimed in claim 1, including a filter member connected between the first isolating valve and the first through-port of the plurality of fluid-distribution valves.
12. A commissioning module as claimed in claim 1, further including respective additional flow-measuring means connected to the inlet ports of the plurality of fluid flow-regulating valves.
13. A commissioning module as claimed in claim 1, wherein the flow-rate measuring means include orifice plates.
14. A commissioning module as claimed in claim 1, further including at least one test point for monitoring a fluid condition in the commissioning module.
15. A commissioning module as claimed in claim 1, wherein the plurality of fluid-distribution valves are in the form of a first manifold.
16. A commissioning module as claimed in claim 1, wherein the plurality of flow-regulating valves are so connected together as to form a second manifold including a length of fluid conduit which serves as the combined fluid-exhaust port of the commissioning module and to which the outlet ports of the plurality of fluid flow-control valves are connected.
17. A commissioning module as claimed in claim 1, fabricated in a corrosion-resistant material.
18. A commissioning module substantially as herein described with reference to and as shown in Fig. 1 or Figs. 1 and 2 of the accompanying drawings.
19. A fluid-distribution system including a commissioning module as claimed in claim 1.

20. A fluid-distribution system as claimed in claim 19, including flexible plastics-coated aluminium fluid conduits connecting the commissioning module to a plurality of heat exchangers.

21. A fluid-distribution system including plurality of heat exchangers connected to a commissioning module, the commissioning module including:

- a fluid supply port for receiving a working fluid for supply to the heat exchangers,

- means providing a plurality of fluid-supply outlet ports connected to the inlet ports of the heat exchangers for supplying working fluid to the heat exchangers,

- means providing a plurality of fluid-exhaust inlet ports connected to outlet ports of the heat exchangers for exhausting working fluid from the heat exchangers,

- a combined fluid-exhaust port connected to exhaust working fluid from the fluid-exhaust inlet ports,

- flow rate control means for adjusting the flow rate of the working fluid supplied to the heat exchangers,

- flow-rate measuring means for measuring the flow rate of the working fluid supplied to the heat exchangers,

- first flow-isolating means for opening and closing the fluid supply port of the commissioning module,

- flow-bypass means for transferring fluid between the fluid supply port and the fluid-exhaust port, bypassing the heat exchangers and

- fluid drain-off means for draining fluid from the commissioning module.

22. A fluid-distribution system as claimed in claim 21, including filter means connected to filter the working fluid passing through the commissioning module.

23. A fluid-distribution system as claimed in claim 21, including a gas vent connected to vent gas from the commissioning module.

24. A fluid-distribution system as claimed in claim 23, wherein the gas vent is an automatic gas vent.

25. A fluid-distribution system as claimed in claim 23, including a further flow-isolating means which is connected between the gas vent and the combined fluid-exhaust port of the commissioning module.
26. A fluid-distribution system as claimed in claim 21, including fluid flow-rate control means connected between the combined fluid-exhaust port and a further fluid exhaust port of the commissioning module.
27. A fluid-distribution system as claimed in claim 21, wherein the flow-rate measuring means include orifice plates.
28. A fluid-distribution system as claimed in claim 21, wherein the drain-off means includes a drain-off cock connected to the means providing the plurality of fluid-supply outlet ports.
29. A fluid-distribution system as claimed in claim 21, wherein the drain-off means includes a drain-off cock connected to the flow-bypass means of the commissioning module.
30. A fluid-distribution system as claimed in claim 21, further including at least one test point in the commissioning module for monitoring a fluid condition in the commissioning module.
31. A fluid-distribution system as claimed in claim 21, wherein the means providing a plurality of fluid-supply outlet ports has the form of a first manifold.
32. A fluid-distribution system as claimed in claim 21, wherein the means providing the plurality of fluid-exhaust inlet ports are so connected together as to form a second manifold including a length of fluid conduit which serves as the combined fluid-exhaust port of the commissioning module and to which the outlet ports of the means providing the plurality of fluid-exhaust inlet ports are connected.

33. A fluid-distribution system as claimed in claim 21, wherein the commissioning module is fabricated in a corrosion-resistant material.
34. A fluid-distribution system as claimed in claim 21, including flexible plastics-coated aluminium fluid conduits connecting the commissioning module to the plurality of heat exchangers.
35. A fluid-distribution system substantially as herein described with reference to and as shown in Fig. 3 of the accompanying drawings.